

Can we please try capitalism?

**An entrepreneurial perspective on
ISS & LEO Commercialization**

**James A.M. Muncy
Principal, PoliSpace**

December 10, 2014

Public Law 105-303 Commercial Space Act of **1998**

SEC. 101. COMMERCIALIZATION OF SPACE STATION.

(a) Policy.--The Congress declares that a priority goal of constructing the International Space Station is the economic development of Earth orbital space. The Congress further declares that free and competitive markets create the most efficient conditions for promoting economic development, and should therefore govern the economic development of Earth orbital space. The Congress further declares that the use of free market principles in operating, servicing, allocating the use of, and adding capabilities to the Space Station, and the resulting fullest possible engagement of commercial providers and participation of commercial users, will reduce Space Station operational costs for all partners and the Federal Government's share of the United States burden to fund operations.

6 Rules for Entrepreneurs



- Don't start doing more than you can afford to do with what you have, but plan for growth if you succeed.
- Use whatever is already in production (or inventory), modify as necessary... but play in the lab some too.
- Bring product to market to quickly start revenue flow... but have a pipeline so investors/customers know you have a future you're building for them
- Look for opportunities to team with other companies to grow your capabilities and learn from theirs
- Solve 3 problems well enough instead of 1 perfectly, and then improve on the solutions over time
- Look to expand current supplier/customer relationships

They're familiar because...



Strategic Principles for Exploration Implementation



Six key strategic principles to provide a sustainable program:

1. Implementable in the ***near-term with the buying power of current budgets*** and in the longer term with budgets commensurate with economic growth.
2. Application of ***high Technology Readiness Level*** (TRL) technologies for near term, while focusing research on technologies to address challenges of future missions
3. ***Near-term mission*** opportunities with a defined cadence of compelling missions providing for an incremental buildup of capabilities for more complex missions over time
4. Opportunities for ***US Commercial Business*** to further enhance the experience and business base learned from the ISS logistics and crew market
5. ***Multi-use, evolvable*** Space Infrastructure
6. Significant ***International and Commercial participation***, leveraging current International Space Station partnerships

Pioneering creates enterprises



- Think of every place humans go as an ecosystem
- Whatever you do there shapes that ecosystem
- You need affordability and sustainability
- Developing Capabilities
 - Organically improving supply chain for key functions
 - Low barriers to new providers
- Growing user base
 - Dramatically impacts affordability and sustainment
 - But they have to be real users w/ \$ at risk

How do we apply to ISS in LEO



- Goal is LEO development, not ISS
 - How many USG employees in Louisiana Purchase?
 - Must not be a gap in LEO
 - ISS may overlap private space stations
 - ISS should generate private space stations
 - But ISS must not hinder their creation
 - ISS lifetime can be an economic, not political decision
 - But that means NASA must act on industry's timetable
- There is no LEO versus BEO fight
 - All participants must integrate plans across all places
 - ISS ecosystem should help generate other ecosystems
- Please don't repeat failures of LEO in BEO
 - ISS commercialization lessons learned